

### **REMARKS**

In the Action, claims 1, 3, 4, 6, 7, 9 and 10 are rejected. In response, new claims 11-16 are added to depend from claims 1, 4 and 7. The pending claims in this application are claims 1, 3, 4, 6, 7, 9 and 10-16, with claims 1, 4 and 7 being independent.

New claims 11, 13 and 15 are added to recite the hydroxyl-group containing saturated compound being a monohydric alcohol having an alkyl group. Claims 12, 14 and 16 are added to recite the alcohol being selected from the group consisting of methanol, ethanol, propanol, and butanol. Support for these claims is found on page 8, line 26, to page 9, line 3, of the specification. Accordingly, the amendments are supported by the specification and claims as originally filed.

In view of these amendments and the following comments, reconsideration and allowance are requested.

### **Rejection Under 35 U.S.C. § 102**

Claims 1 and 3 are rejected under 35 U.S.C. § 102(b) as being anticipated by WO 92/00365-A1 to Vanover et al. Vanover et al. is cited for allegedly disclosing the claimed amount of the reactants. For the reasons discussed herein, Vanover et al. does not disclose or suggest the claimed molar amount of the alkylene oxide in the molar-degree-of-polyaddition-adjusting step of not larger than 20 moles on average per 1 mole of the alkylene oxide low-mol-addition product as claimed.

Applicants submit that the calculation in the Action referring to the molar amount of the alkylene oxide is incorrect. Initially, it is noted that the Action refers to a total of 12.36 equivalents of the propylene oxide in Part B of Vanover et al. The Example referred to in the Action uses 3.44 equivalents (200 g) propylene oxide in Part A and 0.52 (30 g) and 7.4 equivalents (428 g) in Part B for a total of 11.36 equivalents (658 g) and not 12.36 equivalents as

indicated in the Action. In addition, Part A includes 0.5 equivalents (50 g) of the trifluoroethanol. Regardless, as correctly calculated, the molar amount of the alkylene oxide is outside the claimed range.

The calculation presented in the Action does not determine the molar ratio of the alkylene oxide based on the actual molar amount of the first reaction product used which was prepared in the Part A of Vanover et al. Initially, the Action appears to compare the equivalents of the propylene oxide in Part B of Vanover et al. with the amount of the trifluoroethanol in Part A. This not the ratio recited in claim 1. The Action appears to calculate the ratio based on the entire amount of the reaction product produced in Part A rather than the actual 100 grams of this reaction product used in Part B. Thus, this error resulted in an incorrect calculation of the molar amount of the alkylene oxide per 1 mole of the alkylene oxide low-mol-addition product.

More specifically, the Action compares the total amount of the alkylene oxide added in Part A and the amount added in Part B with the total amount of the trifluoroethanol of Part A. However, only 100 grams of the reaction product of Part A was used in Part B so that the amount of the trifluoroethanol in Part B is less than the amount in Part A.. In Part A of Vanover et al., 200 g of polypropylene oxide is reacted with 50 g of trifluoroethanol to obtain the reaction product. In Part B, only 100 g of the original amount was used.

In Part B, 30 g of the polypropylene oxide was added followed by an additional 428 g to 100 g of the reaction product of Part A. Therefore, 458 g  $(= (30+428)g)$  of propylene oxide was added to 100 g of the reaction product of Part A. The moles of propylene oxide added in Part B was 7.89  $(= (30+428)/58)$  (molecular weight of propylene oxide = 58)). The number of moles of the trifluoroethanol in the 100 g of the reaction product of Part A is 0.2  $(= 50/100 \times 100/(200+50))$  (molecular weight of trifluoroethanol = 100)). The calculation of the ratio is as follows:

$$\{(30+428)/58\} / \{50/100 \times 100/(200+50)\} = 7.89/0.2 = 39.5$$

Calculated another way, 0.2 moles of the trifluoroethanol was present in the 100 g of the reaction product from Part A. 50 g of trifluoroethanol was used in the 250 g  $(= (200+50)\text{g})$  of the reactants of Part A. Since 100 g of the reaction product of Part A was used, the corresponding amount of the trifluoroethanol in the 100 g was 20g  $(= (50 \times 100 / (200+50))\text{g})$ . The molecular weight of trifluoroethanol being 100 results in 0.2 moles of the trifluoroethanol in the 100 g of the reaction product from Part A. Therefore, the final product from Part B had 0.2 moles of trifluoroethanol and 7.89 moles of propylene oxide based on the 458 g of the propylene oxide added in Part B and a molecular weight of 58 of propylene oxide. Accordingly, the ratio of propylene oxide to the amount of trifluoroethanol in the product of Part B is  $7.89/0.2=39.5$ .

Thus, it is clear that the molar amount of the propylene oxide in the final product of Vanover et al. is greater than 20 moles per 1 mol of the alkylene oxide low-mol-addition product, and thus, the amount is outside the claimed range. Claims 1 and 3 recite the amount being “not larger than 20 mols on average”. Accordingly, Vanover et al. does not anticipate claims 1 and 3.

Claims 1, 3, 4, 6, 7, 9 and 10 are rejected as being obvious over Vanover et al. when considered with EP 0799807 to Hirata et al.

For the reasons discussed above, Vanover et al. does not disclose the claimed reaction product having the claimed ratio of the alkylene oxide to the alkylene oxide low-mol-addition product of claims 1, 4 and 7. The Action recognizes that Vanover et al. does not disclose the methacrylic acid of claims 4 and 7. Hirata et al. is cited for disclosing the use of methacrylic acid and cement compositions such that it would have been obvious to use methacrylic acid in the reaction of Vanover et al.

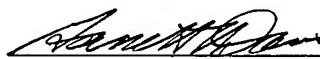
Vanover et al. is directed to the production of lubricating fluids and has no relation to the cement compositions of Hirata et al. Thus, one skilled in the art would not be motivated to combine the teaching of Hirata et al. with Vanover et al. Moreover, even if one were to do so,

the resulting reaction product would not have the claimed molar ratio of the alkylene oxide to the amount of an alkylene oxide low-mol-addition product. Thus, the claims are not obvious over the combination of Vanover et al. and Hirata et al.

Based on the above comments, claims 1, 3, 4, 6, 7, 9 and 10 are allowable over the art of record. New claims 11-16 are also allowable as depending from an allowable base claim and for reciting additional features of the invention that are not disclosed in the art of record.

In view of these amendments and the above comments, reconsideration and allowance are requested.

Respectfully submitted,



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